

GEOGRAPHIC SCHOOL BULLETINS

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated as a non-commercial institution for the increase of geographic knowledge and its popular diffusion. General Headquarters, Washington, D. C.)

January 24, 1944. Vol. XXII. No. 27.

1. The Marshall Islands, Markers of Micronesia's Boundary
2. Bolivia: Mountain Warehouse of War Materials
3. Exploring Continued in 1943 in Spite of War
4. Chrysanthemums War on Man's Insect Enemies
5. Geo-Graphic Brevities



W. Robert Moore

AFRICA'S MONKEYS INFLUENCE AMERICA'S FUR MODES

United States importers of monkey fur from Africa follow the example of that continent's medicine men, who long have valued this type of decoration. In some districts monkey skin is made into soft pouches to carry on safari. The Kaffir of South Africa fashions the skin into an apron which wears for years. Warriors among the Zulus once used the skin of the samango monkey for a part of their uniform. Some governments in Africa protect monkeys from hunters to prevent extermination. Elsewhere the little animals are prodigally killed for food or fur, or to save the crops from their raids. In Ethiopia, where the pet (left) was photographed, the local simians—chiefly, guenon and guereza varieties—are not popular. Sometimes monkey fur reaches the United States with the leopard skins and kid and goat skins exported from Ethiopia. Most African monkey fur, however, comes to the United States from Nigeria, the Union of South Africa, and the Gold Coast (Bulletin No. 5).

GEOGRAPHIC SCHOOL BULLETINS

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated as a non-commercial institution for the increase of geographic knowledge and its popular diffusion. General Headquarters, Washington, D. C.)

January 24, 1944. Vol. XXII. No. 27.

1. The Marshall Islands, Markers of Micronesia's Boundary
2. Bolivia: Mountain Warehouse of War Materials
3. Exploring Continued in 1943 in Spite of War
4. Chrysanthemums War on Man's Insect Enemies
5. Geo-Graphic Brevities



W. Robert Moore

AFRICA'S MONKEYS INFLUENCE AMERICA'S FUR MODES

United States importers of monkey fur from Africa follow the example of that continent's medicine men, who long have valued this type of decoration. In some districts monkey skin is made into soft pouches to carry on safari. The Kaffir of South Africa fashions the skin into an apron which wears for years. Warriors among the Zulus once used the skin of the samango monkey for a part of their uniform. Some governments in Africa protect monkeys from hunters to prevent extermination. Elsewhere the little animals are prodigally killed for food or fur, or to save the crops from their raids. In Ethiopia, where the pet (left) was photographed, the local simians—chiefly, guenon and guereza varieties—are not popular. Sometimes monkey fur reaches the United States with the leopard skins and kid and goat skins exported from Ethiopia. Most African monkey fur, however, comes to the United States from Nigeria, the Union of South Africa, and the Gold Coast (Bulletin No. 5).



GEOGRAPHIC SCHOOL BULLETIN

HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic School Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers in the United States and its possessions for one year upon receipt of 25 cents (stamps or money order); in Canada, 50 cents. Originally entered as second-class matter January 27, 1922; re-entered as of April 27, 1943, Post Office, Washington, D. C., under Act of March 3, 1879. Copyright, 1944, by National Geographic Society, Washington, D. C. International copyright secured. All rights reserved. Quedan reservados todos los derechos.

The Marshall Islands, Markers of Micronesia's Boundary

AMERICAN bombing raids on Japanese bases in the Marshall Islands have brought 20th-century war to a detached island group where mankind's early Age of Innocence is hardly out of sight. The Kanakas living on the low coral atolls of this group—a dwindling race—have brought into the present era many practices left over from the childhood of humanity (illustration, next page).

The 32 wisps of island and 800 wispiest reefs that comprise the Marshalls mark the southeastern boundary of the Japanese mandated area in the Pacific. They have seemed remote from the western world. (Jaluit lies 4,765 miles southwest of San Francisco and 2,420 miles southwest of Hawaii.) But they are near neighbors to the American forces who find themselves on Tarawa in the Gilbert Islands, the next-door group southeast. Far southwest, the Solomon Islands lie over the horizon. So the bases built by Japanese have made the Marshalls an inevitable target for Allied forces on the south and east.

Germans Took Over in 1885

Until the Japanese pushed them into the war, the Marshall Islands had little contact with the outside world. Spanish discoverers first charted them early in the 16th century. A British sea captain, having delivered a cargo of convicts to Australia and turned his course to China for a return load of tea, sailed through the group in 1788 and left it his name.

European civilization began closing in on the islands a century ago, with the visits of crews of sailing vessels on voyages to catch whales and barter for sandalwood. In 1857 an American mission was established on Ebon, southernmost of the island group. Eleven years later a German warship sailed into Marshall waters and influenced Chief Kabna to accept a German protectorate over his people in the western islands. By 1885 the German flag flew over the entire group.

The Kanakas' lives had been simple sequences of wading in the lagoon to catch fish, collecting coconuts to eat, sailing to neighboring islets in delicately balanced outrigger canoes, dancing in the moonlight, and staging or fending off murderous raids. The whalers brought them guns and disease. The missionaries, along with rescuing them from many superstitions and banning their dances, brought them clothing, and tuberculosis followed. The Germans taught them the process of drying coconut meat to make copra. When the Kanakas seemed to prefer to eat the coconuts, the Germans imposed a tax which had to be paid in copra.

Chief Paid Tribe's Taxes and Hospital Expenses

These changes disturbed the primitive pattern of Kanaka life, but did not break it. No one owned any land; the chief simply assigned certain patches of coconut grove for the support of each family. The chief claimed half of the coconuts gathered in every grove; in return it was his duty to pay the taxes and the hospital expenses for the entire clan. Their money—strings of shells—was a novelty used more for gifts than as a substitute for bartering; the language had no word meaning "to buy."

A dead chief was succeeded not by his son but by his sister or his sister's son, since inheritance was governed by ancestry on the mother's side. To the Kanakas the same word meant "brother" and "cousin." Each clan claimed the protection of a totem believed to be a reincarnated ancestor—a fish, worm, tree, or bird.

Bulletin No. 1, January 24, 1944 (over).



F. Villegas Aramayo

THE BARRENNESS OF BOLIVIA'S MOUNTAINS DRIVES MINERS TO GAUDY CLOTHES

This mining town, 12,000 feet above sea level in the Cordillera de Quimsacruz, lies in a treeless valley too high and cold for any luxuriance of vegetation. For color—other than the mountains' purple and the glaciers' glinting white—the miners and their families resort to ponchos and petticoats of brightest hues and rainbow variety. The icy mountain stream (right foreground) drops over the eastern wall of Bolivia's high plateau and winds down into the Amazon and the Atlantic. This is one of the tin mines which have ranked Bolivia as the Western Hemisphere's leading producer of this metal essential for canning and soldering (Bulletin No. 2).

GEOGRAPHIC SCHOOL BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Bolivia: Mountain Warehouse of War Materials

THE long debate as to whether the United States and other American neighbors should officially recognize Bolivia's new government has dramatized the importance of that landlocked, sky-high South American country in the United Nations' war effort.

No insignificant little mountain state is Bolivia. Nearly twice as large as France and half again as large as Texas, and walled around by some of the highest mountains in the Western Hemisphere, this country is the richest New World source of tin and antimony, the second-richest source of tungsten, and virtually an outdoor warehouse for supplies of rubber and cinchona (for quinine).

Tin Treasury of the Anti-Axis World

Silver was the key that unlocked Bolivia's buried treasure during the colonial era of Spanish rule, and built booming Potosi into the largest city on either American continent. But after 1895, as the food-canning industry grew, the country's tin became a greater treasure. Now the tin quest makes men endure the hardships of working at 12,000 to 16,000 feet above sea level, where the air is gasping-thin and even the summer sunshine rarely raises the temperature above 60 degrees (illustration, inside cover). Potosi is treasuring the tin mixed with its silver ore and installing modern mining equipment. An aerial cableway carries tin ore 6 miles down the mountain slopes in half-ton buckets. As many as 13,000 Bolivians may depend for their income on a single tin mine where the breadwinners are employed. Before the war the country was scooping up about 15 per cent of the world's tin output, and war needs have skyrocketed the quantity.

At the same time, since China's exports were stopped by war, Bolivia was also mining more than one-fourth of the globe's production of antimony, the soft metal required for the storage batteries of every automobile, jeep, truck, and plane.

The United States, even before going to war, fed its steel industry half again as much tungsten as was mined in this country. Then and now it was Bolivia whose mines contributed metal to fill in the deficit (illustration, next page).

Four-fifths of the Bolivians live, walk around, work, and sleep at an altitude that few North Americans ever know except when flying—about 10,000 feet above sea level. Most of them live on the Altiplano ("high plain"), the flat floor of a mountain trough suspended at 12,000 feet between peaks that tower above it to 21,000-foot heights. The persistent cold, the thin air which leaves outsiders breathless, the sparse vegetation of this treeless, barren plateau are to most people symbolic of Bolivia. On this second-story level stand the country's two capital cities—modern La Paz, with its 287,000 people, and traditional old Sucre, now dwindled to a city of 30,000.

Potato Is Treasure for Hungry Bolivians

But two-thirds of the country spills down the Andes' eastern slopes into the lap of the tropical Amazon. From the jungles of hot eastern lowlands comes the rubber which is another of the nation's war assets.

The same trend of war that put Japan in control of the world's chief quinine resources in the Netherlands Indies threw American armed forces into malarial jungles where quinine would be needed. Bolivia then saw a revival of interest in collecting quinine's raw material—the bark of the cinchona tree—from Andean slopes that first gave the medicine to Europeans. Bolivians call the bark "quina

Bulletin No. 2, January 24, 1944 (over).

In 1914 the Japanese occupied the Marshall group, and since the Treaty of Versailles they have administered it as part of their Micronesia mandate.

The islands are aligned in two chains, the eastern or Radak ("sunrise") group and the western or Ralik ("sunset"). Atolls near the southern head of the line in each chain—Mili in the Radak group and Jaluit in the Ralik—were made into bases by the Japanese and then into targets by the Americans.

The atoll of Jaluit is a string of low islets extended by a sea-washed reef to enclose a diamond-shaped blue lagoon 25 miles long. The settlement of Jabor (Jaboru), at the northern end of the slim island called either Jaluit or Yaruto, has been the capital of the Marshall group and the port at which the atoll's copra was collected. Prewar inhabitants of the atoll have been estimated at 1,700; about 400 of them were Japanese.

Mili to the east is a similar islet cluster enclosing a lagoon 23 miles long. About 500 people lived on the atoll before the war.

Some other island links in the eastern chain are Majuro, Wotje, Mejit (or New Year), Rongerip, and Rongelap; in the western, Ebon, Ailinglapalap, and Jabwot.

NOTE: The Marshall Islands are shown in a large-scale inset on the National Geographic Society's Map of the Pacific Ocean. A price list of maps may be obtained from the Society's headquarters in Washington, D. C.

For additional information, see "Hidden Key to the Pacific," in the *National Geographic Magazine* for June, 1942*; and "Mysterious Micronesia," April, 1936. (Issues marked with an asterisk are included in a special list of *Magazines* available to teachers at 10¢ each in groups of ten.) See also the GEOGRAPHIC SCHOOL BULLETINS, March 2, 1942: "Marshall Islands, Where U. S. Blasted Japanese Territory."

Bulletin No. 1, January 24, 1944.



Willard Price

JAP-RULED KANAKAS MAY LAMENT THEIR DEAD WITH ENGLISH HYMNS

These tribal elders in a mournful semicircle are singing a farewell serenade to their dead chieftain. Since many Kanakas have attended mission schools conducted by American missionaries, their solemn songs are likely to be hymns in English. Funerals are not rare among the Kanakas, whose death rate exceeds the birth rate. Chief cause of death is listed as tuberculosis, a gift of the white man. One Kanaka infant out of four dies before reaching the age of two. A year or two after a funeral, the Kanakas hold a memorial service. Friends bring the bereaved family condolence gifts of food; in return the family makes ceremonial gifts of money. This photograph was made on Palau, west of the Marshalls.

GEOGRAPHIC SCHOOL BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Exploring Continued in 1943 in Spite of War

WAR has greatly reduced the probings into the hidden history of ancient man and the unknown parts of the earth. Nevertheless, in 1943 many unusual finds were reported by exploring expeditions.

Excavations at La Venta, in Tabasco, Mexico, by the joint expedition of the National Geographic Society and the Smithsonian Institution, headed by Dr. Matthew W. Stirling, uncovered the first pieces of a rare variety of translucent green jade to be unearthed in the Western Hemisphere. Among the objects of La Venta culture found in these excavations were a necklace of 62 green jade beads, jadeite axes, and ornaments of amber, crystal, and turquoise (illustration, next page).

Old Oaks to Build a New World

A "lost" forest of the biggest oak trees in the world—some of them measuring eight feet in diameter—was discovered high in the mountains, near San José, Costa Rica's capital, by an expedition of the U. S. Forest Service surveying the timber wealth of Central and South America. This gigantic forest extends for miles along the interocean divide through central Costa Rica.

The survey revealed a greater variety of trees in this region than is found anywhere in the United States. In places there are as many as 100 species to an acre, including a hitherto unknown kind of *vantanea* which will be useful for building bridges and for other construction along the Inter-American Highway. Timber surveyed may go far to meet the world's needs for postwar reconstruction.

Stone idols, grinding-stones, and ceramic objects were unearthed near Rivas, in Nicaragua, during building of a bridge for the Inter-American Highway.

In August, 1943, an expedition set forth into Brazil's Big Woods, the State of Mato Grosso. It plans to map the region with a view to colonization, to build airfields, and to explore for rubber trees which are believed to grow there in great number. The expedition is to travel about 1,500 miles, in the upper valleys of the Xingú and Tapajóz Rivers and areas of Mato Grosso south of these rivers.

Ancient Tomb Makes Modern Air Raid Shelter

In North America, California's central San Joaquin Valley yielded bones of the extinct American camel, bison, and horse, with four human skeletons, estimated to be from 10,000 to 15,000 years old. Excavations for a war housing project at Millbrae, California, brought to light fossilized bones of mammoths measuring from 10 to 13 feet. The huge animals probably perished when mired in a bog.

In a cave on an Indian camp site at Bear Mountain, in the Hudson Highlands of New York, were excavated 200 pieces of Iroquois pottery presumed to be cook pots. They were identified by the American Museum of Natural History as of a type in use about the year 1600. A six-inch awl of polished deer bone, of the same period, was also found. More deeply imbedded in the same cave were relics of the older Algonquin culture—two red slate knives of unknown date.

Workmen digging an air raid shelter in Chengtu, Szechwan Province, China, discovered the tomb of Wang Chien, 10th-century Chinese emperor. It is 80 feet long, 20 feet wide, and 20 feet high, with a statue of Wang Chien.

Soviet geologists, seeking coal deposits, discovered a subterranean city with more than five miles of corridors, extending into a mountain near Stalinabad, capital of the Tadzhik S.S.R. Animal paintings decorated the walls and implements of the Polished Stone Age were strewn about.

Bulletin No. 3, January 24, 1944 (over).

tabla" or "quina canuto," according to whether it is ripped from the tree's bole or its branches, and bundle it into 50-pound batches for sale.

One of Bolivia's newly discovered mineral treasures is petroleum. Wells are operated in the Bolivian Gran Chaco at Rio Bermejo, at Sanandita, and at Camiri. Refineries are within reach at Sucre.

Paradoxically, the country to which larger nations look gratefully for vitally needed minerals and forest products is hungry. Mines employ hundreds of thousands of people at altitudes where few foods grow. A little barley, wheat, and corn can be coaxed out of the cold earth and harvested by hand. Quinoa is another crop—a stunted grain whose leaves make a sort of Bolivian spinach and whose seeds are cooked up as mush. For Bolivians working in rich veins of silver, tin, tungsten, or antimony, the country's greatest wealth is the hardy little white potato. Though Ireland adopted it, its home is in the high Andes, and modern Bolivians sustain life on it as their ancestors did. Their delicacy is the *chuño*, a potato dehydrated by a process of freezing and air-drying.

NOTE: Bolivia is shown on the Society's Map of South America.

For additional information, see "Bolivia—Tin Roof of the Andes," in the *National Geographic Magazine* for March, 1943; "Tin, the Cinderella Metal," November, 1940*; and "Bolivia, Land of Fiestas," November, 1934.

See also the following GEOGRAPHIC SCHOOL BULLETINS: "Mountain-Tiered Bolivia, Mineral War Chest," January 18, 1943; and "High Mountains Advance Aviation in Bolivia" (Geographic Brevity), February 9, 1942.

Bulletin No. 2, January 24, 1944.



Fenno Jacobs from *Three Lions*

INDIAN FINGERS PREPARE THE SHARP EDGE FOR AMERICA'S WAR SWORD

From mines in Bolivia the United Nations obtain tungsten to harden steel for tough armor-plate, for armor-piercing projectiles, for durable parts in engines, and for keen and lasting cutting edges on the blades of machinery. Electric light bulbs, radio tubes, and spark plugs likewise call for tungsten. China and Burma supplied more than half the world's tungsten before the war. But Bolivia, a world-famous mining country before tungsten was discovered, dug deep into her mountain pockets and brought forth a considerable quantity of wolframite—an ore of tungsten—to help remedy the shortage. Ore carried on a conveyor belt from the Chjolla mines is sorted by sharp-eyed women on the "picking belt"; dark impurities are picked out. More than two miles above sea level, mining towns are cold by day and icy by night. The women work in felt derbies, warm shawls, and many wool petticoats.

GEOGRAPHIC SCHOOL BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Chrysanthemums War on Man's Insect Enemies

ONE of Uncle Sam's most critical war materials consists of the peaceful petals of the chrysanthemum flower, dried and ground to a powder.

This flowery powder is classified on the scale of critical war needs along with such obviously valuable substances as platinum, tantalum, and natural rubber, and ahead of industrial diamonds.

The chrysanthemum that produces this highly prized powder is a special sort—a single-type, daisylike member of the family called pyrethrum. It happens that the powder from this simple little flower is the best all-round killer of mosquitoes, flies, "cooties," and certain other creeping, crawling, and flying insects that has been found.

One of its greatest virtues is that while deadly to insects, it is harmless to humans. It is therefore a life-and-death aid in warding off insect-carried diseases in distant regions, especially in the tropics, in which United States forces now find themselves.

Pyrethrum Spray Makes Sleeping Quarters Safe

In America's war activity pyrethrum's chief role is to make sleeping and living quarters safe for soldiers who must try to rest in whatever haphazard shelter is available, whether foxhole, hut, wrecked village, or abandoned building.

A newly compounded mixture—of Freon gas (such as is used in mechanical refrigerators), an extract from pyrethrum powder, and a little oil—is compressed into small steel cylinders fitted with valves. A turn of the valve allows a fine spray to escape. Within a few seconds the pyrethrum-laden mist will clear tents and other small spaces of lurking mosquitoes, potential carriers of malaria or yellow fever.

This gives American fighting men a sort of pocket-size ack-ack gun to blast the insect enemies that "bomb" with germs. Uncle Sam is shipping hundreds of thousands of these cylinders of compressed insecticide to bases and active war fronts around the world. In the process he is using thousands of tons of the chrysanthemum petals.

One of the most important odd jobs of the spray is to cleanse transport planes of insects that might hitchhike to new areas and continents to spread dangerous infections.

Japan Had Near Monopoly

Pyrethrum's deadly effect on the little flying and crawling pests that have plagued man through the ages was discovered centuries ago in Iran (Persia) where the flowers grow wild—and where insects flourish.

Then Europe learned from Asia the use of this convenient powder. Dalmatia and Montenegro, other homes of wild pyrethrum plants, in what is now Yugoslavia, became the chief sources of supply (illustration, next page).

When world demand increased, Japan, as it did in the cases of so many other products, put its cheap labor to work at pyrethrum culture and at one time had almost a monopoly.

Within the last decade, however, pyrethrum production has grown rapidly in Kenya and other East African areas, Belgian Congo, and Brazil. Recently thousands of pounds of pyrethrum seed have been sent from Kenya, present chief grower of the plant, to such scattered regions as the Caucasus of the U.S.S.R.,

Bulletin No. 4, January 24, 1944 (over).

Other Soviet scientists, working in neighboring regions of Central Asia, have discovered remains of towns of about 500 B.C. and traces of irrigation canals which suggest that agriculture once flourished in the desert region of Kara Kum and Kyzyl Kum, extending through parts of the Turkmen, Uzbek, and Kazakh S.S. Republics. This region, arid for centuries, is now being reclaimed by irrigation. Russian construction of a hydroelectric plant in the Uzbek S.S.R. brought to light scores of tombs yielding Syrian and Iranian ornaments and Chinese copper coins of the 3rd century.

Excavations in Iraq have thrown new light on the Kassites, the Elamite tribe that overran Babylonia about 1780 B.C. and founded a dynasty that ruled for five centuries. On the site of the capital of King Kurigalzu, 18 miles west of Baghdad, five inscribed stones and several inscribed tablets bearing on this controversial period of Mesopotamia's history were found in a buried temple.

In Egypt, scientists of the Greco-Roman Museum at Alexandria found beneath the foundations of Pompey's Pillar plaques of silver, gold, clay, and bronze which definitely proved, for the first time, that the hill on which this red granite shaft stands is the site of the famous Serapeum, the temple built to the Egyptian god, Serapis, by Ptolemy I.

NOTE: For additional information see these articles in the *National Geographic Magazine*: "Through Paraguay and Southern Matto Grosso," October, 1943; "La Venta's Green Stone Tigers," September, 1943; and "Finding Jewels of Jade in a Mexican Swamp," November, 1942.

Bulletin No. 3, January 24, 1944.



Richard H. Stewart

DEAD MEN TELL THEIR TALES TO ARCHEOLOGISTS AT LA VENTA

Excavations by the National Geographic Society-Smithsonian Institution Expedition, under Dr. Matthew Stirling, in 1943 uncovered new objects of ancient art at La Venta, the swamp-bordered treasure site in coastal Tabasco, Mexico. This tomb once held the remains of a prominent citizen, who merited an elaborate stone box seventeen feet long and six feet wide. Members of the expedition were tense as they unearthed the burial jewels—37 carved axheads from seven to ten inches long arranged around the edges of the tomb (left of center, foreground), green jade earplugs and a necklace of 62 green jade beads (center, beside trowel), and the carved jade ornaments of his tall ceremonial headdress.

GEOGRAPHIC SCHOOL BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Geo-Graphic Brevities

PAICHE, AMAZON'S BIGGEST FISH, NOW FEEDS WAR WORKERS

IT MAY be just another fish story to most North Americans, but to workers tapping the rich regions of the upper Amazon the paiche means a big fish packed with protein for much-needed nourishment.

One of the world's largest fresh-water fishes, the paiche—or pirarucu—is the largest Amazon species. It reaches 12 to 15 feet in length, and weighs up to 500 pounds.

Dried and cut in strips, the paiche has been poor man's beef in the Amazon region for years. It is now raised commercially on a fish "farm" in Peru. It will aid the war effort by supplying protein to workers in areas where sudden expansion of the quest for rubber and other war materials threatens food supplies.

The paiche was once so plentiful that fishermen from one small village could count a two-weeks' catch by the thousands. Unrestricted fishing has now depleted the rivers.

The government of Peru in 1940, fearing a complete loss of this valuable fish, declared the Pacaya River, a tributary of the Amazon, a paiche preserve. A paiche hatchery is maintained there. More than 20,000 pounds of paiche have already left this fish farm for market.

The almost boneless fish is valued for more than its meat. The tooth-edged tongue, when dried, serves as a substitute for steel files, and it is also used as a grater in preparing farina from the cassava root.

NOTE: The Amazon and Pacaya Rivers are shown on the Society's Map of South America.

For further information on the Amazon region, see these articles in the *National Geographic Magazine*: "Brazil's Potent Weapons," January, 1944; "Through Paraguay and Southern Matto Grosso," October, 1943; and "Wonder Island of the Amazon Delta," November, 1938*.

See also these GEOGRAPHIC SCHOOL BULLETINS: "Brazil's 'Wild West' Mato Grosso Attracts Explorers," November 8, 1943; "Brazil: South American Giant," November 30, 1942; and "Amazon, Largest 'Father of Waters,' Celebrates," February 16, 1942.

* * * * *

FUR-BEARING AFRICA HAS TRADE WITH UNITED STATES

ARRIVAL in New York of a boatload of Somali leopard skins has spotlighted Africa as a possible source of more furs for United States customers, in one of war's realignments of trade. The U.S.S.R., China, India, and other parts of Asia, now relatively inaccessible, have been great sources of furs for America.

Monkey fur was worn by Ethiopians long before it was used by Paris dress-makers to trim feminine finery. The fashion later spread to the United States. Africa has remained the principal source, supplying U. S. furriers with as many as 50,000 monkey pelts a year (illustration, cover).

Most leopard skins have come from Africa. Ethiopia alone has supplied the U. S. markets with as many as 100,000 a year.

Fur of the serval, an African wildcat, has been reserved in Africa for native chiefs. This tawny animal has black spots, widely separated on the sides and running together to form streaks on the back. The tail is ringed with black.

A small percentage of U. S. imports of wildcat fur came from Africa. Found throughout the continent, except on the Sahara and in deep tropical forests, the wildcat was a sacred animal in Egypt, mummified and buried with royalty.

Bulletin No. 5, January 24, 1944 (over).

India, Ceylon, Egypt, Australia, and Jamaica, with a view to stepping up world production.

Pyrethrum grows well in California, but the expense of gathering the flowers by hand has made it impossible to compete effectively with outside sources where labor is very cheap. Recent experiments with mechanical horse-drawn harvesters promise to alter this situation.

Peacetime Jobs Await Pyrethrum

Just before the war the United States was importing annually an average of 15 million pounds of pyrethrum powder.

Since war has eliminated Japan as a source of supply, Uncle Sam has been able to scrape together only about 10 million pounds a year. On the New York market the powder costs about 30 cents a pound, wholesale.

Pyrethrum has important peacetime jobs waiting for it. Chief task will be to serve again in household insect sprays. Large quantities will be called for to protect certain stored foods against insect pests—a use which is also important in wartime.

If the price can be kept low enough, say insecticide specialists, there will be a tremendous demand for pyrethrum to dust on growing vegetables and fruits to ward off insect attacks.

NOTE: "Saboteur Mosquitoes," an article which will appear in the February, 1944, issue of the *National Geographic Magazine*, deals with the methods used by the United States Army, Navy, and Public Health Service in the control, prevention, and treatment of insect-borne diseases. This article includes information on the use of pyrethrum in insecticides.

Bulletin No. 4, January 24, 1944.



Melville Chater

DALMATIAN DAISY FIELDS BOOSTED TROGIR'S PEACETIME TRADE

Daisylike pyrethrum flowers, botanically single chrysanthemums, grow wild in the fields of Yugoslavia and are a peacetime export of this Balkan nation now fiercely fighting the Axis. The "insect flowers," as they are called because of their disastrous effect on crawling and flying pests, are used in the manufacture of insecticides. At Trogir, on a tiny island about midway of Yugoslavia's Dalmatian coast, preparation of these flowers for export is a peacetime industry. Here they have been dumped on canvas-carpeted pavement to dry in the sun. The man with the stiff straw hat (right) is raking them back and forth to hasten the drying process. When crisp the blossoms are gathered into burlap bags, ready for export.

Moles are plentiful in the United States, but their fur is regarded as inferior to the imported pelt. Most imports came from the Netherlands. Now Africa may be a substitute source. African moleskins are silver brown in color.

Jackal's fur from Algeria is soft and deep. Silver jackals, black with grayish sides, and golden jackals, black with reddish sides, come from South Africa. Other African furs are African water vole, red cat, otter, genet, hyena, caracal (a lynx), and gazelle. The fur of the South American gazelle is often dyed in the United States to imitate mink, sable, marmot, and leopard.

NOTE: African lands which supply furs for export may be studied on the Society's Map of Africa. For additional information on some of Africa's fur-bearing animals, see the series of duotone illustrations, "Wings Over Nature's Zoo in Africa," in the *National Geographic Magazine* for October, 1939*.

Bulletin No. 5, January 24, 1944.



Alfred M. Bailey

FUR-BEARING AFRICA HAS ITS ARISTOCRATS

The klipspringer holds its head up and walks on tiptoe, for it is one of nature's aristocrats among the fur-bearing animals of Africa. Similar in habit to the chamois of Europe, this small antelope is famous for its agility and skill in rock climbing; on rocky slopes it can find foothold where none is visible to the human eye. Its name is Dutch for "cliff springer." Its coat blends with rock backgrounds and is an aid in concealment from enemies. Klipspringers are unusual among antelopes in that the female of the species, as well as the male, has horns. They live on bare mountainsides throughout eastern Africa, from the Union of South Africa to Ethiopia, where this one was photographed.

